

**METHOD AND APPARATUS FOR SELECTABLY PROVIDING SINGLE-ENDED AND
DIFFERENTIAL SIGNALING WITH CONTROLLABLE IMPEDANCE AND
TRANSITION TIME**

CROSS-REFERENCE TO RELATED APPLICATIONS

5 [0001] This patent application is a continuation of U.S. Patent Application No.
10/079,143 (Attorney Docket No. 57941.000042; Client Reference No. RA239.P.US), filed
February 19, 2002, ^{is now a U.S. Patent 6,683,472,} which is hereby incorporated by reference herein in its entirety.

FIELD OF THE DISCLOSURE

10 [0002] The present invention relates generally to electrical signaling techniques and
more particularly to signaling techniques compatible with single-ended and differential signaling.

BACKGROUND

15 [0003] Electronic components are used to perform various functions, for example, to
store data, to process data, and to communicate data. However, for such electronic components
to function cooperatively, they need to be able to communicate among each other. Various
20 signaling techniques have been developed to facilitate such communication. One such signaling
technique is referred to as single-ended signaling. In single-ended signaling, a single wire, which
may be any type of conductive path, may be used to communicate a signal by varying a
parameter, such as a voltage on that wire with respect to a reference voltage, such as ground.
Such a reference voltage may be used as a common reference voltage for several single-ended
25 signals. Another type of signaling technique is referred to as differential signaling. In
differential signaling, two wires, which may be any type of conductive paths, may be used to
communicate a signal by varying a parameter of one of the wires with respect to a parameter of
the other wire. Such signaling is referred to as differential signaling. The meaning or value of a